Applicant : Christopher J. Wright et al.
Serial No. : 10/698,933
Filed : November 3, 2003
Page : 2 of 16

Attorney's Docket No.: 06975-074002 / Security 05-
CON

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-49. (Cancelled)

50. (New) A method of monitoring connection transactions with access providers, the method comprising:

receiving, at an intermediary device that is configured to facilitate communications between a requestor device and first and second access providing hosts, a first connection transaction request from the requestor device that requests access to the first access providing host;

subsequent to receiving the first connection transaction request, receiving, at the intermediary device, a second connection transaction request from the requestor device that requests access to the second access providing host;

determining, at the intermediary device, that the first connection transaction request resulted in a partially-completed connection transaction that reached a time out condition prior to receipt of an acknowledgement corresponding to the first connection transaction request; and

based on the determination that the first connection transaction request resulted in a partially-completed connection transaction that reached a time out condition prior to receipt of an acknowledgement corresponding to the first connection transaction request, blocking, at the intermediary device, the second connection transaction request to prevent the second connection transaction request from reaching the second access providing host.

51. (New) The method of claim 50 wherein blocking, at the intermediary device, the second connection transaction request further comprises:

identifying, at the intermediary device, the requestor device based on the second connection transaction request;

Applicant : Christopher J. Wright et al.
Serial No. : 10/698,933
Filed : November 3, 2003
Page : 3 of 16

Attorney's Docket No.: 06975-074002 / Security 05-
CON

accessing, at the intermediary device, information identifying requestor devices from which the intermediary device has previously received a connection transaction request that resulted in a partially-completed connection transaction that reached a time out condition prior to receipt of an acknowledgement corresponding to the connection transaction request, the accessed information reflecting the determination that the first connection transaction request resulted in a partially-completed connection transaction that reached a time out condition prior to receipt of an acknowledgement corresponding to the first connection transaction request;

comparing, at the intermediary device, the accessed information to the identified requestor device; and

based on comparison results, determining, at the intermediary device, that the intermediary device previously received, from the requestor device, that first connection transaction request that requested access to the first access providing host and that resulted in a partially-completed connection transaction that reached a time out condition prior to receipt of an acknowledgement corresponding to the first connection transaction request.

52.   (New) The method of claim 50 wherein the intermediary device is a switch configured to perform load balancing techniques for communications directed to the first and second access providing hosts.

53.   (New) The method of claim 50 wherein determining, at the intermediary device, that the first connection transaction request resulted in a partially-completed connection transaction that reached a time out condition prior to receipt of an acknowledgement corresponding to the first connection transaction request comprises:

accessing, at the intermediary device, a time out threshold;

measuring, at the intermediary device, an amount of time that the intermediary has been waiting for an acknowledgement corresponding to the first connection transaction request;

comparing, at the intermediary device, the measured amount of time to the time out threshold; and

Applicant : Christopher J. Wright et al.
Serial No. : 10/698,933
Filed : November 3, 2003
Page : 4 of 16

Attorney's Docket No.: 06975-074002 / Security 05-
CON

determining, at the intermediary device, that the first connection transaction request resulted in a partially-completed connection transaction that reached a time out condition when the comparison reveals that the measured amount of time exceeds the time out threshold.

54.   (New) The method of claim 50 wherein, at the time of blocking the second connection transaction request, the intermediary device has not previously received, from the requestor device, a connection transaction request that requested access to the second access providing host and that resulted in a partially-completed connection transaction that reached a time out condition prior to receipt of an acknowledgement corresponding to the connection transaction request.

55.   (New) The method of claim 50 wherein blocking, at the intermediary device, the second connection transaction request further comprises delaying termination of a partially-completed connection transaction based on the second connection transaction request to allow the intermediary device to continue monitoring communications from the requestor device to the second access providing host.

56.   (New) The method of claim 50 further comprising:

determining, at the intermediary device, whether a return address included in the second connection transaction request differs from an actual return address of the requestor device; and

blocking, at the intermediary device, the second connection transaction request in response to a determination that the return address included in the second connection transaction request differs from the actual return address of the requestor device.

57.   (New) The method of claim 56 wherein determining, at the intermediary device, whether the return address included in the second connection transaction request differs from the actual return address of the requestor device comprises determining, at the intermediary device, whether a return Internet protocol address included in the second connection transaction request differs from an actual return Internet protocol address of the requestor device.

58.   (New) A networking device comprising:

a processor; and

a memory encoded with machine readable instructions that, when executed by the processor, operate to cause the processor to perform operations comprising:

facilitating communications between a requestor device and first and second access providing hosts;

receiving a first connection transaction request from the requestor device that requests access to the first access providing host;

subsequent to receiving the first connection transaction request, receiving a second connection transaction request from the requestor device that requests access to the second access providing host;

determining that the first connection transaction request resulted in a partially-completed connection transaction that reached a time out condition prior to receipt of an acknowledgement corresponding to the first connection transaction request; and

based on the determination that the first connection transaction request resulted in a partially-completed connection transaction that reached a time out condition prior to receipt of an acknowledgement corresponding to the first connection transaction request, blocking the second connection transaction request to prevent the second connection transaction request from reaching the second access providing host.

59.   (New) The networking device of claim 58 wherein blocking the second connection transaction request further comprises:

identifying the requestor device based on the second connection transaction request;

accessing information identifying requestor devices from which the intermediary device has previously received a connection transaction request that resulted in a partially-completed connection transaction that reached a time out condition prior to receipt of an acknowledgement corresponding to the connection transaction request, the accessed information reflecting the determination that the first connection transaction request resulted in a partially-completed connection transaction that reached a time out condition prior to receipt of an acknowledgement corresponding to the first connection transaction request;

Applicant : Christopher J. Wright et al.
Serial No. : 10/698,933
Filed : November 3, 2003
Page : 6 of 16

Attorney's Docket No.: 06975-074002 / Security 05-
CON

comparing the accessed information to the identified requestor device; and

based on comparison results, determining that the intermediary device previously received, from the requestor device, the first connection transaction request that requested access to the first access providing host and that resulted in a partially-completed connection transaction that reached a time out condition prior to receipt of an acknowledgement corresponding to the first connection transaction request.

60.   (New) The networking device of claim 58 wherein the networking device is a switch configured to perform load balancing techniques for communications directed to the first and second access providing hosts.

61.   (New) The networking device of claim 58 wherein determining, at the intermediary device, that the first connection transaction request resulted in a partially-completed connection transaction that reached a time out condition prior to receipt of an acknowledgement corresponding to the first connection transaction request comprises:

accessing, at the intermediary device, a time out threshold;

measuring, at the intermediary device, an amount of time that the intermediary has been waiting for an acknowledgement corresponding to the first connection transaction request;

comparing, at the intermediary device, the measured amount of time to the time out threshold; and

determining, at the intermediary device, that the first connection transaction request resulted in a partially-completed connection transaction that reached a time out condition when the comparison reveals that the measured amount of time exceeds the time out threshold.

62.   (New) The networking device of claim 58 wherein, at the time of blocking the second connection transaction request, the networking device has not previously received, from the requestor device, a connection transaction request that requested access to the second access providing host and that resulted in a partially-completed connection transaction that reached a time out condition prior to receipt of an acknowledgement corresponding to the connection transaction request.

Applicant : Christopher J. Wright et al.   Attorney's Docket No.: 06975-074002 / Security 05-
Serial No. : 10/698,933   CON
Filed   : November 3, 2003
Page   : 7 of 16

63.   (New) The networking device of claim 58 wherein blocking the second connection transaction request further comprises delaying termination of a partially-completed connection transaction based on the second connection transaction request to allow the intermediary device to continue monitoring communications from the requestor device to the second access providing host.

64.   (New) The networking device of claim 58 wherein the memory is further encoded with machine readable instructions that, when executed by the processor, operate to cause the processor to perform operations comprising:

determining whether a return address included in the second connection transaction request differs from an actual return address of the requestor device; and

blocking the second connection transaction request in response to a determination that the return address included in the second connection transaction request differs from the actual return address of the requestor device.

65.   (New) The networking device of claim 64 wherein determining whether the return address included in the second connection transaction request differs from the actual return address of the requestor device comprises determining whether a return Internet protocol address included in the second connection transaction request differs from an actual return Internet protocol address of the requestor device.

66.   (New) A method of monitoring access requests to access providers comprising:

observing, using an intermediary device other than an access providing host that assigns resources responsive to inbound access requests, information identifying a requestor based on receipt of the requestor's submission of an access request to a first access providing host;

accessing, using the intermediary device, stored information identifying previous requestors, of the first access providing host as well as of other access providing hosts, that are determined to have submitted a previous access request that has timed out prior to submission of an acknowledgement corresponding to the previous access request;

comparing, using the intermediary device, the observed information identifying the requestor to the stored information identifying previous requestors;

when the comparison reveals that the requestor has submitted a previous access request that has timed out prior to submission of an acknowledgement corresponding to the previous access request, denying, using the intermediary device, the access request submitted by the requestor while denying passage of the access request to the first access providing host; and

when the comparison reveals that the requestor has not submitted a previous access request that has timed out prior to submission of an acknowledgement corresponding to the previous access request:

monitoring, using the intermediary device, a partially-completed connection transaction resulting from the access request to determine whether a time out condition occurs prior to requestor submission of an acknowledgement corresponding to the access request, and

to the extent that a time out condition is determined to exist, adding, using the intermediary device, information identifying the requestor to the stored information identifying previous requestors for use in comparing against future requestors that submit an access request.

67.   (New) The method of claim 66 wherein denying, using the intermediary device, the access request submitted by the requestor while denying passage of the access request to the first access providing host comprises denying, using the intermediary device, the access request submitted by the requestor when the comparison reveals that the requestor has submitted, to an

access providing host other than the first access providing host, a previous access request that has timed out prior to submission of an acknowledgement corresponding to the previous access request.

68.   (New) The method of claim 66 wherein the intermediary device is a switch configured to perform load balancing techniques for communications directed to the first access providing host as well as the other access providing hosts.

69.   (New) The method of claim 66 further comprising:

determining whether a return address included in the access request differs from an actual return address of the requestor's device; and

denying the access request in response to a determination that the return address included in the access request differs from an actual return address of the requestor's device.

70.   (New) An networking device, other than an access providing host that assigns resources responsive to inbound access requests, comprising:

a processor; and

a memory encoded with machine readable instructions that, when executed by the processor, operate to cause the processor to perform operations comprising:

observing information identifying a requestor based on receipt of the requestor's submission of an access request to a first access providing host;

accessing stored information identifying previous requestors, of the first access providing host as well as of other access providing hosts, that are determined to have submitted a previous access request that has timed out prior to submission of an acknowledgement corresponding to the previous access request;

comparing the observed information identifying the requestor to the stored information identifying previous requestors;

when the comparison reveals that the requestor has submitted a previous access request that has timed out prior to submission of an acknowledgement corresponding to

the previous access request, denying the access request submitted by the requestor while denying passage of the access request to the first access providing host; and

when the comparison reveals that the requestor has not submitted a previous access request that has timed out prior to submission of an acknowledgement corresponding to the previous access request:

monitoring a partially-completed connection transaction resulting from the access request to determine whether a time out condition occurs prior to requestor submission of an acknowledgement corresponding to the access request, and

to the extent that a time out condition is determined to exist, adding information identifying the requestor to the stored information identifying previous requestors for use in comparing against future requestors that submit an access request.

71.   (New) A storage medium encoded with instructions that, when executed by a processing device, operate to cause the processing device to perform operations comprising:

observing, using an intermediary device other than an access providing host that assigns resources responsive to inbound access requests, information identifying a requestor based on receipt of the requestor's submission of an access request to a first access providing host;

accessing, using the intermediary device, stored information identifying previous requestors, of the first access providing host as well as of other access providing hosts, that are determined to have submitted a previous access request that has timed out prior to submission of an acknowledgement corresponding to the previous access request;

comparing, using the intermediary device, the observed information identifying the requestor to the stored information identifying previous requestors;

when the comparison reveals that the requestor has submitted a previous access request that has timed out prior to submission of an acknowledgement corresponding to the previous access request, denying, using the intermediary device, the access request submitted by the requestor while denying passage of the access request to the first access providing host; and

when the comparison reveals that the requestor has not submitted a previous access

request that has timed out prior to submission of an acknowledgement corresponding to the

previous access request:

monitoring, using the intermediary device, a partially-completed connection

transaction resulting from the access request to determine whether a time out condition

occurs prior to requestor submission of an acknowledgement corresponding to the access

request, and

to the extent that a time out condition is determined to exist, adding, using the

intermediary device, information identifying the requestor to the stored information

identifying previous requestors for use in comparing against future requestors that submit

an access request.